Developing gasmarkets:
Lessons learned from the Netherlands

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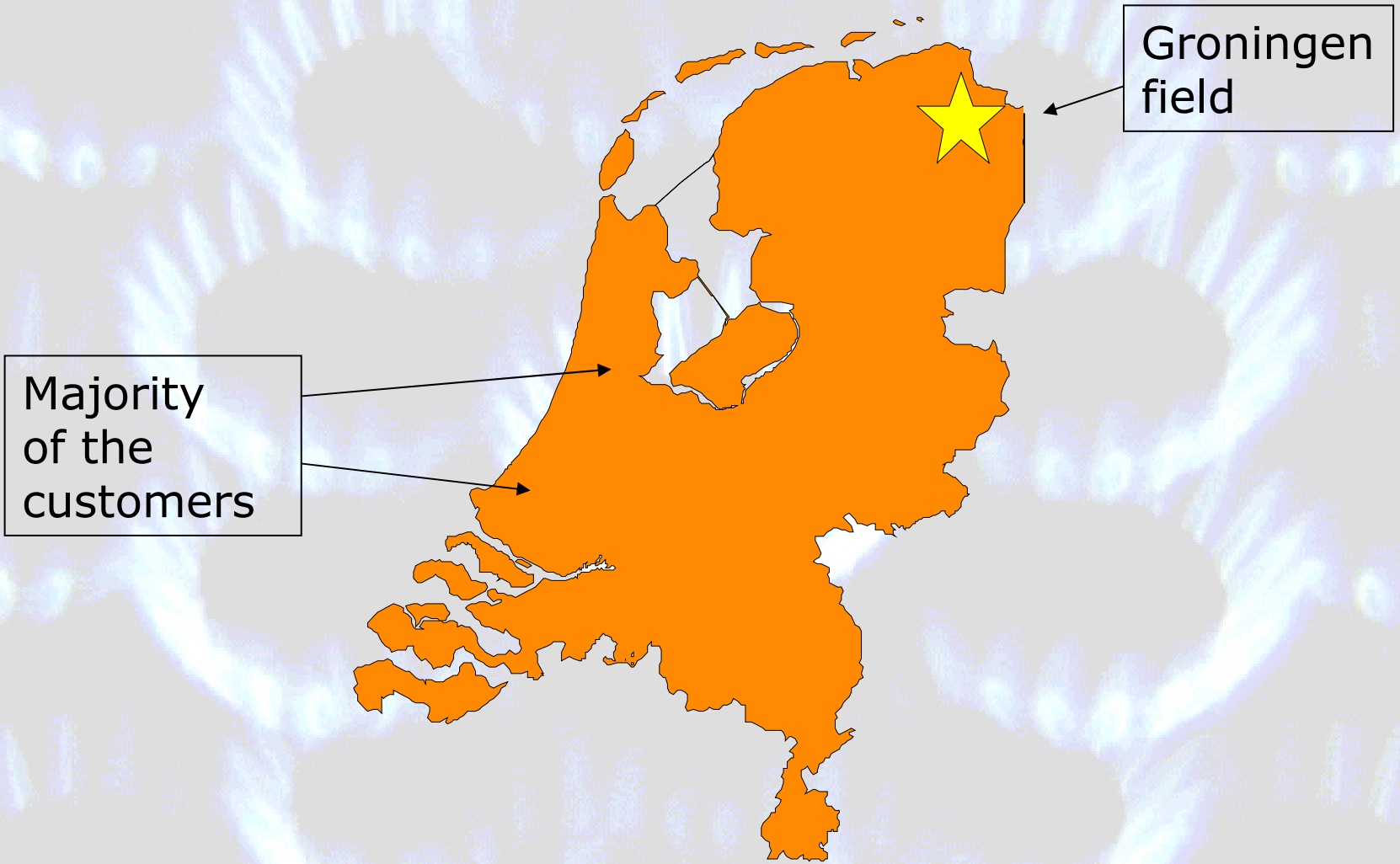
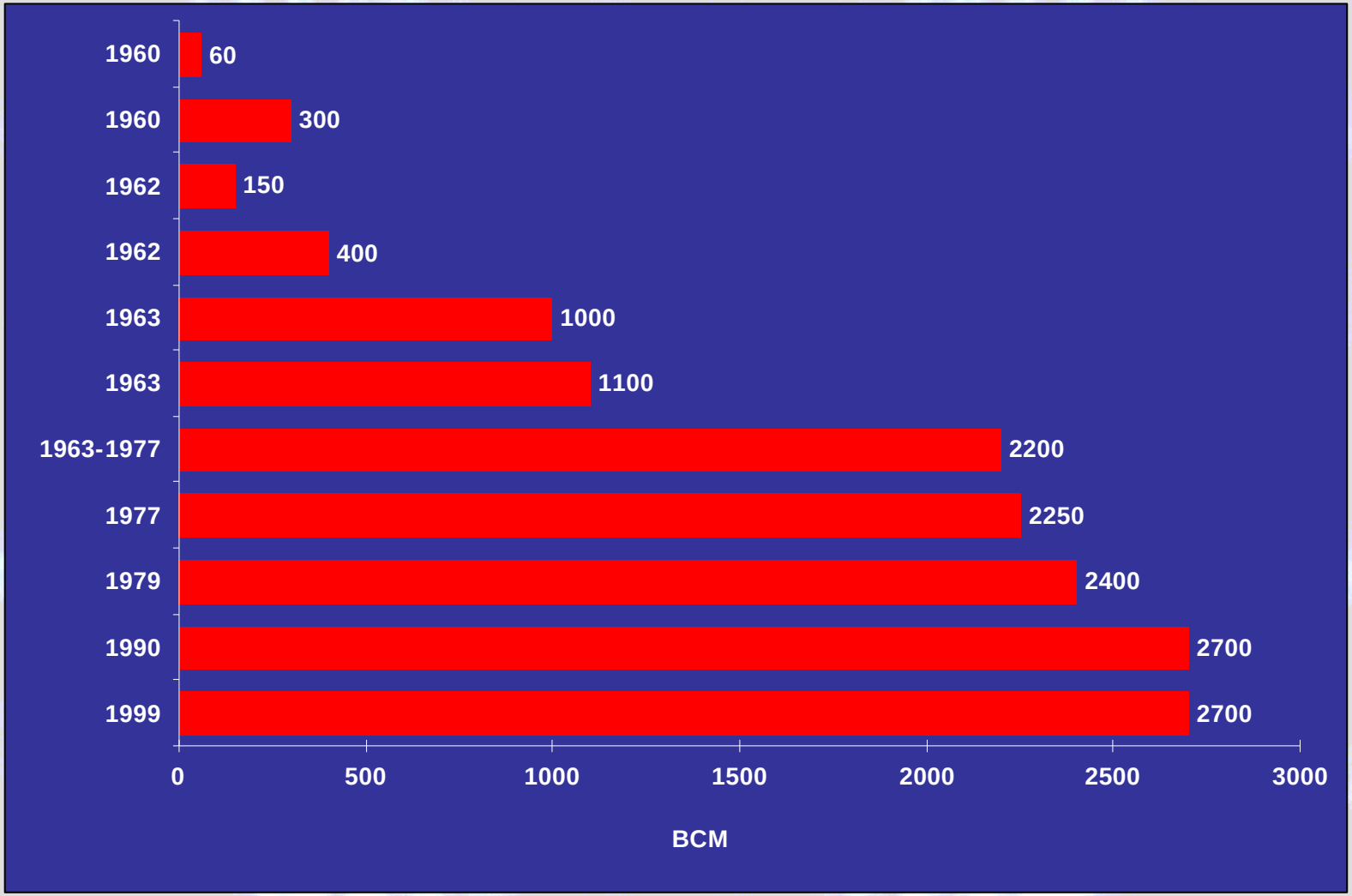
1959: a star was born…



Forecasting is difficult , especially the underground



So: lots of gas and later "small fields" too

What to do with all that gas and why?

- Lots of own gas → lots of money (commercialization)
- Improvement of security of energy supply
- Reduction of dependence of (foreign) energy suppliers
- Low production costs compared to alternative fuels (then: coal)
- Easy to use fuel (once the infrastructure is present)
- Better for the environmental (clean)

How to develop a new gas market

The development of the infrastructure (pipes, storages, burners, metering equipment etc) requires large investments and, therefore, a long term view of the authorities with respect to:

- The role of gas in the energy mix of the country
- Suitable legislation and taxes:
  - subsoil aspects & government takes
  - ownership of the infrastructure, TPA, etc
  - safety, town & country planning aspects
  - environmental aspects
  - competition in the market, roles, regulation etc
- In short: a clear definition of rights and responsibilities of the various parties involved → trust for the parties involved

Case study: the Netherlands

How did we do it?

The situation around 1960

- Just recovered from World War II. The Netherlands still a traditional society, but changes were imminent
- Cold War dominated the international politics
- Growth of industrialization & strong growth of energy use in the industry and the households
- Energy supplies were:
  - imported oil
  - domestically produced coal (~50.000 workers)
  - some "town gas" from 150 local gas factories
  - nuclear energy was the big promise for the future
- Energy prices: relatively low
- In 1959 NAM (Dutch Oil Company, JV of Shell and Exxon) discovered a huge gas field in the province Groningen

Needed stakeholders & expertise

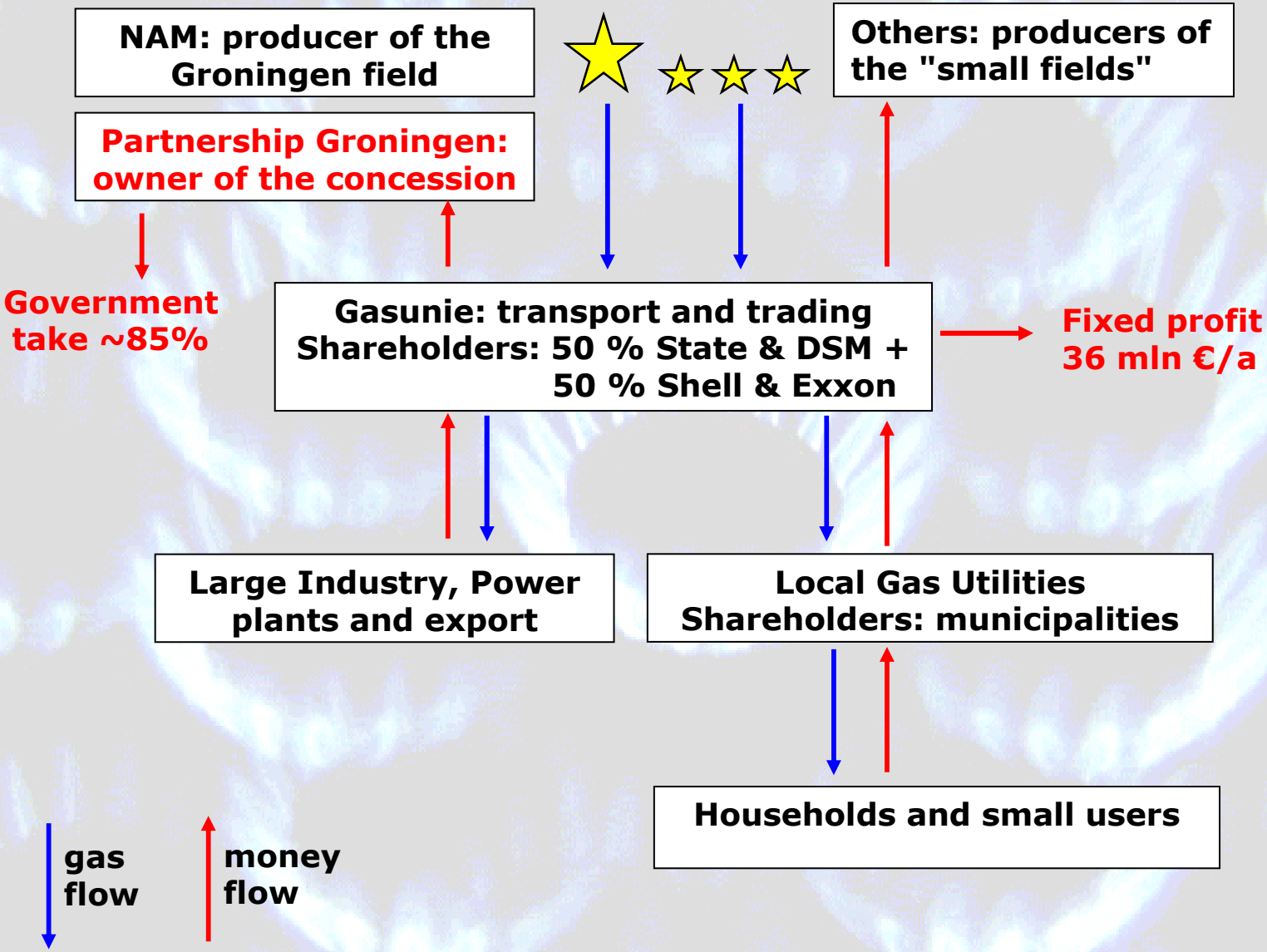
- **The State**
  - Legislator, defender public interests
  - Tax collector
  - Owner of the State Mines DSM
  - Promoter of the competitiveness
  - Economic policy maker for the NL
- **DSM**

  - Producer of a coal (uncompetitive)
  - Employer
  - Technical know how
  - One of the producers of town gas
  - Operator of a small gas grid
- **The oil companies Shell & Exxon (JV = NAM)**
  - Large international experience
  - Financially strong parties
  - Experienced in project management
  - Marketing knowledge of gas oil and fuel oil
  - Concessionaire for the Groningen gas field

Other stakeholders

- **Local utilities (gas & electricity)**
  - Numerous small companies
  - Owners of Gas Factories, local distribution grids and power plants
  - Owned by municipalities
- **The Dutch industry and power plants**
  - Growing energy need
  - Needed reliable and cheap energy to ensure international competitiveness
- **The general public**
  - Not familiar with natural gas
  - Growing desire for an easy to use fuel
  - Mistrusting towards the large oil companies

Organization of the market



Development of the market

The Plan:

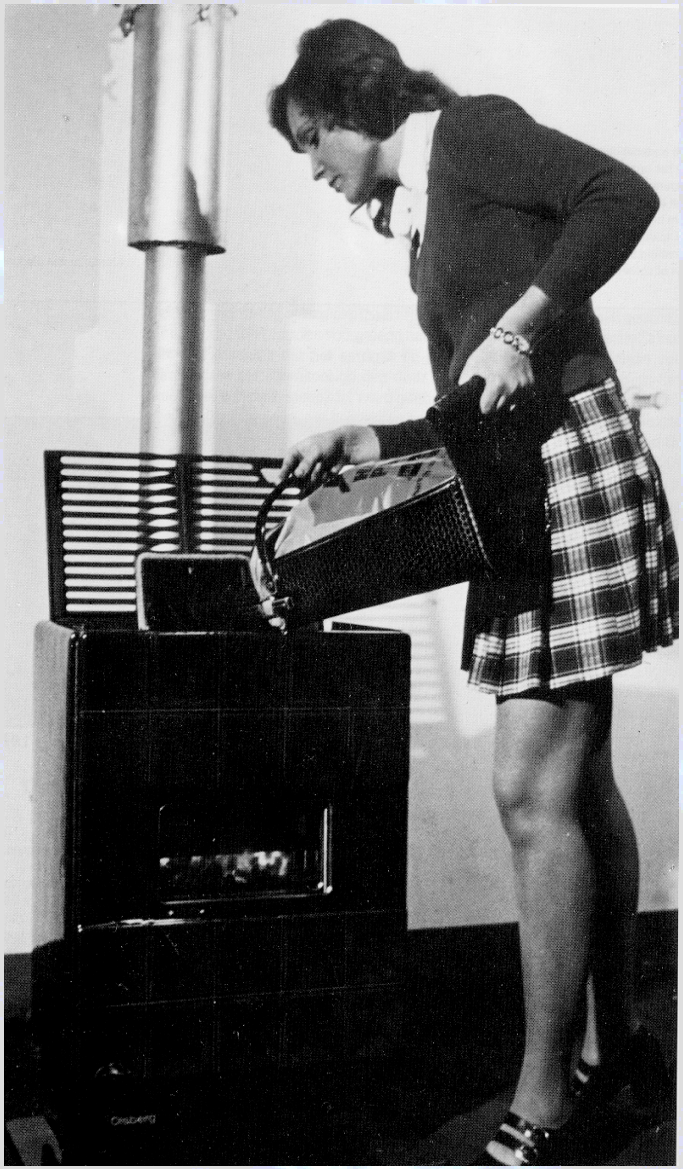
- To sell not only to (big) industrial clients & power plants but also to (all) small users (households, shops, offices)
- Choose the gas price at the same level as the alternative fuel for each client: "market value" (introduction of oil price parity)
- To use the local utilities for downstream marketing and for switching of equipment
- To build lots of gas pipes
- Accelerated shut down of the coal mines; creation of new jobs in the mining region; absorption of personnel from the mining industry by Gasunie

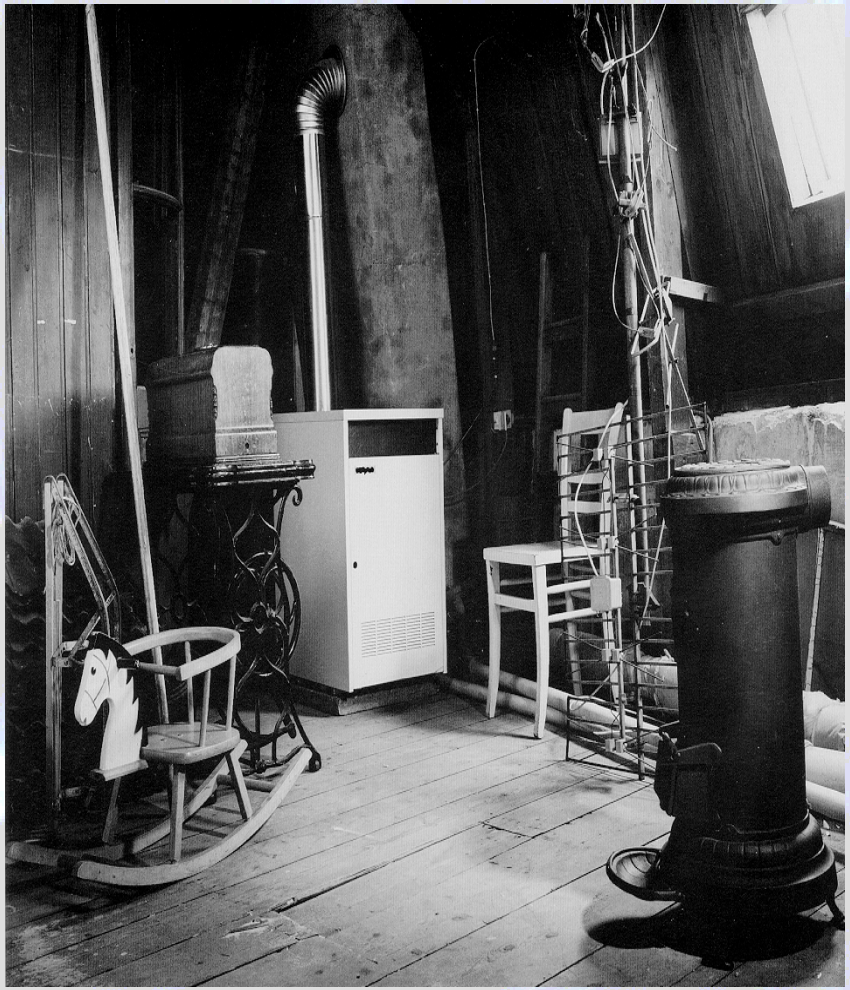
Development of the market

Roles & responsibilities:

- NAM (and other producers): production of natural gas
- Shell and Exxon: contribution of marketing & project management skills and of capital
- The State: provide trustworthiness, price protection for clients, streamlining the construction permitting procedure, other laws, contribution of capital, receive the profits of the "Dutch Underground Richness"
- DSM: represent the state, contribution of knowledge of the distribution of gas and of personnel
- Gasunie: construct the transmission grid, perform marketing campaign, sell the gas, give instructions for safe use of gas
- Local utilities: build local distribution networks, train the gas-fitters, adjustment of appliances and machines, billing for small users
- The Partnership Groningen: collect the money and divide between the partners (and pay NAM for operating expenses)

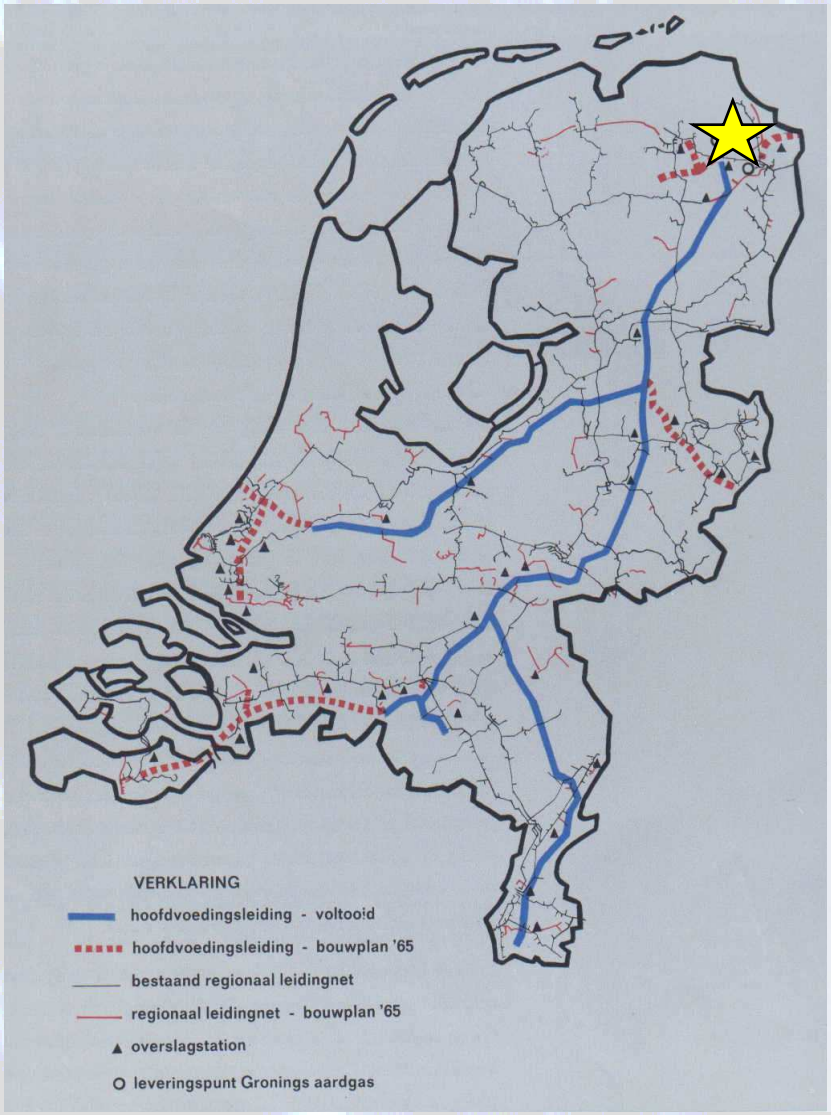
Marketing campaign

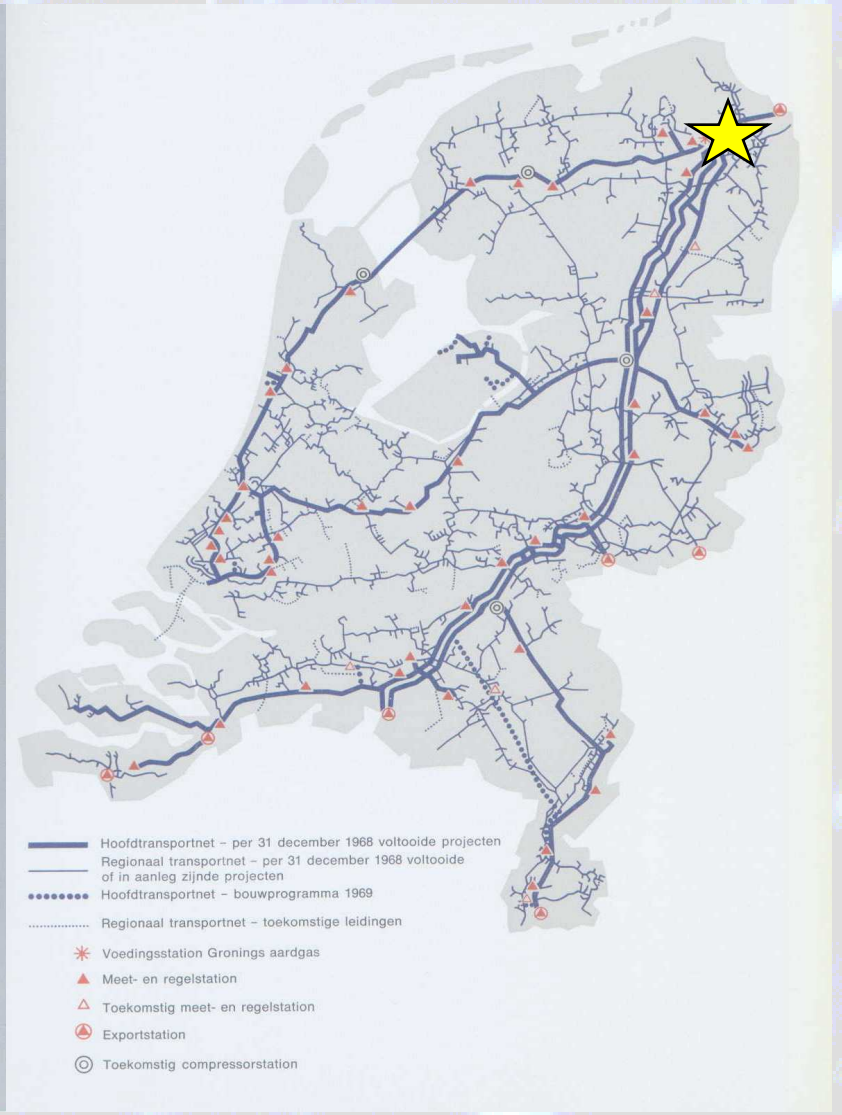




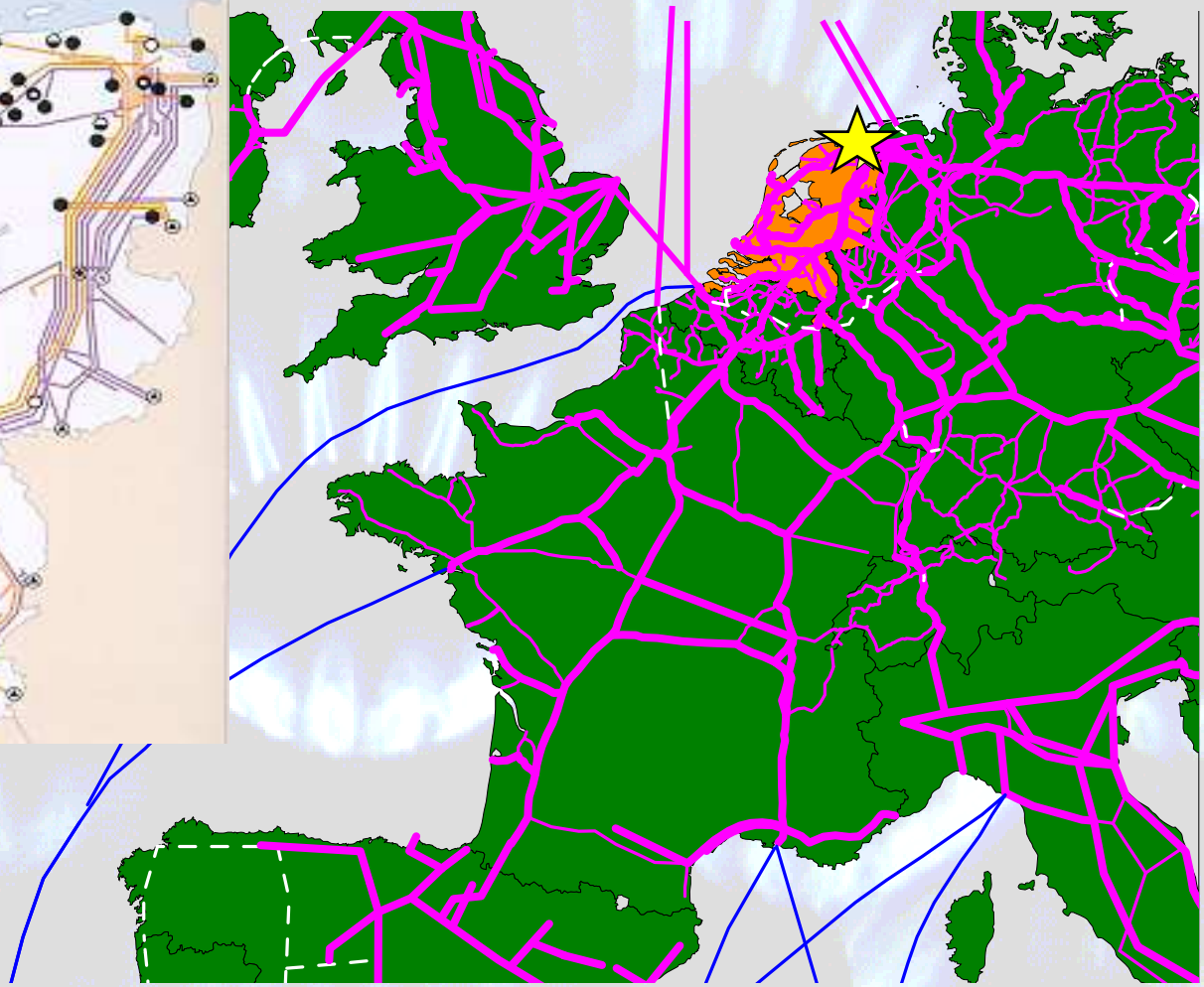
Information of the public

The gas grid (then)

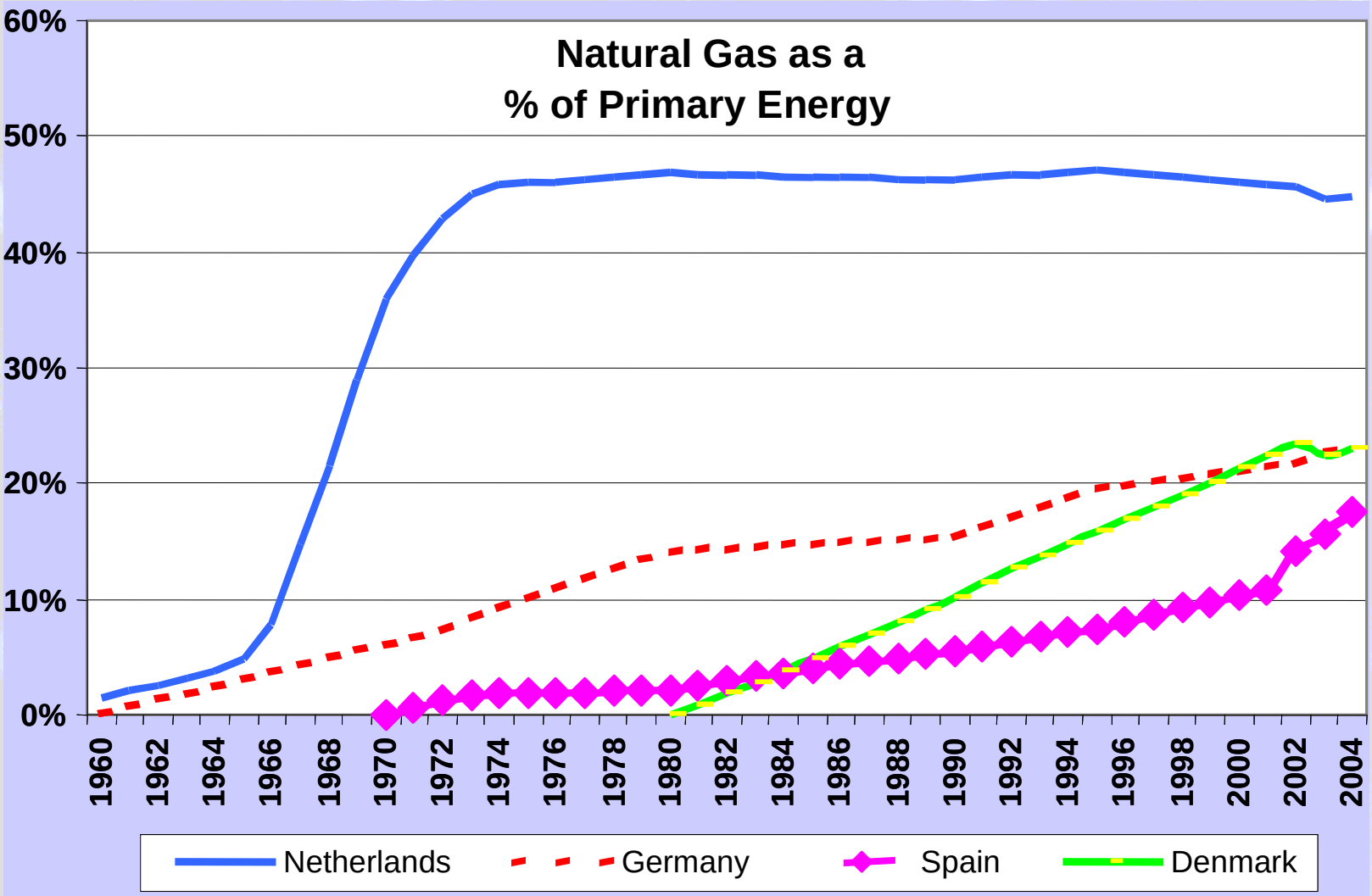




The gas grid (now)



The results


Natural Gas as a
% of Primary Energy
60%
50%
40%
30%
20%
10%
0%
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
Netherlands
Germany
Spain
Denmark

Sucess factors

- We had luck: found a huge gas field (a "pie to share")
- The Netherlands is densely populated, so "the market" was nearby
- Active role of the State: create long term vision and trust; protect the public interests
- Intensive cooperation between the State and private parties: share information and influence between parties
- Involve all other affected parties in the process ("polder model");
- Acquire & use necessary skills
- A clever pricing system and a fair profit sharing principle (sometimes criticized, however solid for 50 years)

Thank you for your kind attention

Questions?